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TITLE : MANUFACTURE OF HIGH TENSILE STEEL PLATE WITH SUPERIOR WORKABILITY

ABSTRACT : PURPOSE: To manufacture a high tensile steel plate with $\geq 50\text{kg/mm}^2$ tensile strength and superior workability by hot rolling a steel contg. specified amounts of C, Si, Mn, Cr and Al by an ordinary method and box-annealing it at a temp. from the A_1 transformation point to the A_3 transformation point.

CONSTITUTION: A steel consisting of, by weight, 0.02–0.15% C, 0.1–1.5% Si, 1.9–3% Mn, 0.2–1.3% Cr, $\leq 0.1\%$ Al and the balance Fe with inevitable impurities is forged and hot rolled by an ordinary method at $\geq 850^\circ\text{C}$ finish temp. and $\geq 500^\circ\text{C}$ coiling temp. The rolled steel is then box-annealed at a temp. from the A_1 transformation point to the A_3 transformation point to obtain a composite structure contg. ferrite and martensite. It is more effective to add 0.01–0.1% Nb and/or 0.01–0.2% Ti to said composition.

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